

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application	)	Examiner: A. PIZIALI
HUE SCOTT SNOWDEN ET AL.	)	
	)	Art Unit: 1771
Serial No.: 10/723,408	)	
	)	Deposit Account: 04-1403
Confirmation No.: 2660	)	
	)	Customer No.: 22827
Filed: NOVEMBER 25, 2003	)	

Title: METHOD OF TREATING NONWOVEN FABRICS WITH NON-IONIC  
FLUOROPOLYMERS

APPELLANT'S REVISED ORIGINAL APPEAL BRIEF

Mail Stop Appeal Brief – Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with 37 CFR § 41.37, and responsive to the Notification of Non-Compliant appeal Brief mailed on September 23, 2008, appellant hereby submits the revised original appeal brief to the Examiner's Final Office Action of February 12, 2008, Advisory Action of May 22, 2008, and Advisory Action of June 18, 2008.

1. REAL PARTY IN INTEREST:

The real party in interest is appellant Kimberly-Clark Worldwide, Inc., which is the assignee of the applicants' entire right title and interest.

2. RELATED APPEALS AND INTERFERENCES:

None.

3. STATUS OF CLAIMS:

Of claims 1 – 40, claims 1 – 22, 24, 26, 27, 32, 33 and 38 have been cancelled. Appellant appeals the final rejections of claims 23, 25, 28-31, 34-37, 39 and 40, mailed on February 12, 2008 as modified in the Advisory Action mailed on May 22, 2008, and the Advisory Action mailed on June 18, 2008.

4. STATUS OF AMENDMENTS:

The last amendments were electronically submitted on May 12, 2008, and were entered pursuant to the Advisory Action mailed on May 22, 2008.

5. SUMMARY OF CLAIMED SUBJECT MATTER:

As explained at page 2, lines 12 – 20 of appellant's specification, independent claim 23 is directed to a topically treated nonwoven fabric laminate. As explained at page 2, lines 15 – 19, page 3, lines 15 and 16, page 4, lines 10 – 15, and page 14, lines 1 – 6 of appellant's specification, the nonwoven fabric laminate comprises at least one spunbond layer and at least one meltblown layer. As explained at page 15, lines 3 – 5

of appellant's specification, the nonwoven fabric laminate carries a fluoropolymer chemistry that improves the alcohol repellency of the fabric while minimizing any negative effect on the water barrier of the fabric. As exemplified at page 16, lines 22 and 23 of appellant's specification, the nonwoven fabric laminate 10 comprises a dried coating of a non-ionic fluoropolymer composition on the spunbond and meltblown layers. As explained at page 16, lines 18 and 19 of appellant's specification, because the non-ionic fluoropolymer composition is applied in solution form to the laminate 10, the non-ionic fluoropolymer composition permeates and coats all layers of the laminate 10. As explained at page 16, lines 21 and 22 of appellant's specification, the nonwoven fabric laminate 10 comprises an antistatic agent applied over the coating of non-ionic fluoropolymer on one side of said laminate 10. As explained at page 3, lines 24 and 25 of appellant's specification, the antistatic agent can be an organic phosphate ester.

6. GROUND'S OF REJECTION TO BE REVIEWED ON APPEAL:

Claims 23, 25, 28-31 and 34-37 have been rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,145,727 (hereafter Potts) in view of U.S. Patent No. 5,023,130 (hereafter Simpson) in view of U.S. Patent No. 4,000,233 (hereafter Gilbert) or U.S. Patent No. 4,169,062 (hereafter Weipert).

Claims 23, 25, 28-31 and 34-37 have been rejected under 35 U.S.C. § 103(a) over Potts in view of Simpson in view of Gilbert or Weipert and further in view of to U.S. Patent No. 5,296,282 (hereafter Evers).

7. ARGUMENT:

A. Claims 23, 25, 28-31 and 34-37 Are Patentable over Potts, Simpson, and Gilbert or Weipert

Claim 23 is the only independent claim on appeal and stands rejected under 35 U.S.C. § 103(a) over Potts in view of Simpson and in further view of Gilbert or Weipert.

Claim 23 requires that the antistatic agent that is applied over the coating of non-ionic fluoropolymer “is an organic phosphate ester.”

Lines 6 – 9 of paragraph 4 on page 4 of the February 2008 Office Action held that while Potts does not specifically mention an organic phosphate ester antistatic agent, Gilbert and Weipert each disclose that it is known in the art to use an organic phosphate ester antistatic agent. Lines 9 – 13 of paragraph 4 on page 5 of the February 2008 Final Office Action then concluded that:

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the antistatic agent [of Potts] from any suitable antistatic composition, such as an organic phosphate ester, as taught by Gilbert or Weipert, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Thus, this rejection was based on the premise that one skilled in the art of making topically treated non-woven fabric laminates would substitute a known antistatic agent for the agent already present in the composition of Potts.

Appellant rebutted the basis for this rejection in the Amendment After Final filed on May 12, 2008, (which has been entered) by establishing that, even if one skilled in the art of making topically treated non-woven fabric laminates were to substitute the antistatic agents as suggested into the additive composition of Potts, the antistatic agent

would be homogenously mixed with all of the other additives, including the fluoropolymer additive, and be present uniformly over the surfaces of the fibers. Thus, the antistatic agent would not be a separate element applied over a first dried fluoropolymer coating.<sup>1</sup> Appellant also pointed out that there would be no logical reason for one skilled in the art to apply an additional or separate antistatic agent to the laminate of Potts because the individual fibers already had antistatic properties due to the antistatic agent in the additive composition.

The May 2008 Advisory Action and the June 2008 Advisory Action sustained the rejection of claim 23 based on the same combination of references, but applied the references in a different manner. In particular, each of the May 2008 Advisory Action and the June 2008 Advisory Action states:

Gilbert specifically discloses that there are advantages to externally applied antistatic agents (coatings) compared to internally applied agents (added to the base material). Gilbert discloses that internally applied agents do not produce an immediate effect but rather require as much as three days or more to migrate to the surface (column 1, lines 6-20). In addition, Gilbert discloses that internally applied antistatic agents cause color problems (column 1, lines 6-20). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to externally apply an antistatic agent to the laminate, rather than apply an internal antistatic agent, motivated by a desire to provide the laminate with an immediate antistatic effect and/or to avoid color problems.

This new basis for the obviousness rejection requires one skilled in the art of making topically treated non-woven fabric laminates to eliminate the antistatic agent from the additive composition of Potts, and instead apply the antistatic agent externally

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<sup>1</sup> The Final Office Action also held that claim 23 does not positively set forth that only one side of the laminate has the antistatic agent applied thereto. However, it appears that this distinction is moot in the

to the Potts laminate. This new basis for the obviousness rejection requires the skilled artisan to make this substitution because of Gilbert's teaching in the process of extruding a thermoplastic tube.

In Gilbert's summary of invention at column 1, lines 59 – 64, Gilbert states (emphasis added):

In accordance with this invention, a first antistatic composition is applied to **a molten, freshly extruded thermoplastic tube** prior to passing same to a sizing means, and thereafter a second antistatic composition is applied to **said tube** after same is passed through said sizing means and solidified.

In Gilbert's description of the preferred embodiments at column 2, lines 4 – 6, Gilbert states (emphasis added):

The invention is applicable to the production of parisons from any extrudable plastic polymer for which antistatic protection may be required.

A parison is a hollow tube that is a precursor form from which plastic bottles are blow molded.

Thus, Gilbert teaches that after a first antistatic composition is applied to a molten, freshly extruded thermoplastic tube, then a second antistatic composition is applied to the tube after the tube is passed through a sizing means and solidified. Gilbert teaches that this way of extruding tubes from molten thermoplastic results in tubes that need not wait 3 or 4 days for the first antistatic application to migrate to the tube's surface.

Appellant respectfully submits that this new basis of the two 2008 Advisory

Actions for altering the Potts process is not well founded and therefore is clearly erroneous, and is directly contrary to the teachings of Potts, which is the base reference.

The Supreme Court's decision in KSR v. Teleflex did not eliminate the requirement of 35 U.S.C. § 103(a) concerning "a person having ordinary skill in **the art to which said subject matter pertains.**" Emphasis added. The burden is on the Office to meet this requirement. Claim 23 pertains to the art of making "topically treated non-woven fabric laminates." In contrast to claim 23, Gilbert pertains to the art of making parisons, which are thermoplastic tubes that are precursors for making bottles of blow molded plastic. Appellant respectfully submits that the Office has not met its burden in the Office's reliance on Gilbert.

The alleged advantages of external application of an antistatic agent described in Gilbert are not relevant to the spunbond or meltblown layers of the present laminate. As set forth in the specification, spunbond fibers have an average diameter between about 10 and 20 microns, and meltblown fibers have an average diameter smaller than 10 microns. No bottle as in Gilbert has anything approaching these sorts of dimensions. Gilbert relates to relatively large thermoplastic extruded tubes having a diameter of about 33 millimeters (about 1.25 inches) and a length of about 8 inches (see example described at Gilbert column 4, lines 30 – 33 and 47 – 49). Gilbert extruded and sized components have fundamentally different characteristics as compared to micron-sized fibers, and the concerns of Gilbert simply do not relate to the fibers.

The alleged benefit in Gilbert related to the time for the antistatic agent to migrate to the surface of an extruded and sized tube. That such alleged benefit is not applicable

to micron-sized fibers is a fact that is widely recognized and appreciated by those skilled in the art as evidenced by Potts itself. Potts column 18, lines 17 – 28 expressly describes that migration of the additive in the polymer composition occurs as the fibers are formed (emphasis added):

... a mixture of an additive and a thermoplastic polymer, which additive imparts to the surfaces of said fibers, as a consequence of the preferential migration of said additive to the surfaces of said fibers as they are formed, at least one characteristic which is different from the surface characteristics of fibers prepared from said thermoplastic polymer alone, said preferential migration taking place spontaneously upon the formation of said fibers without the need for a post-formation treatment of any kind.

Thus, Potts expressly teaches that migration of the additive to the surface of the fiber happens essentially spontaneously upon formation of the fibers without the need for any further treatment. The time delay described in Gilbert is simply not an issue with the laminate material of Potts, and thus Gilbert's contrary teaching establishes that one of ordinary skill in the art of making "topically treated non-woven fabric laminates" would dismiss Gilbert as irrelevant to this art. This fact alone defeats the basis of the two 2008 Advisory Actions' contention that one of ordinary skill in the art of making "topically treated non-woven fabric laminates" would be motivated to eliminate the antistatic agent from the additive composition of Potts, and to subsequently externally apply the agent because of any such ill-effect time delay raised by Gilbert.

It is also respectfully submitted that the problem of "color formation during compounding" described in Gilbert is not an issue in micron-sized extruded polymer fibers. The color inconsistency issue may be relevant in relatively large extruded tubes, bottles, and the like, but would not be relevant to micron-sized spunbond or meltblown



fibers. Potts describes various combinations of internal additives, as well as numerous examples of materials made with such combinations. There is no hint or suggestion in Potts of any sort of “color formation” problem caused by the internal additives. Moreover, Gilbert never says that any sort of “color formation” problem is overcome by its double application of antistatic agent.

Importantly, the express purpose and teaching of Potts is to add the additive components (including any antistatic agent) as a component of the melt extruded fibers so as to eliminate the need for any external or post formation treatment of the fabrics. (Column 5, line 65 through column 6, line 3). One skilled in the art of making “topically treated non-woven fabric laminates” would not be motivated to ignore this express benefit and requirement of Potts by externally applying an antistatic agent after formation of the laminate material, as suggested in the two 2008 Advisory Actions’ new basis for modifying the Potts reference. It is respectfully submitted that there would need to be a compelling reason for one skilled in the art of making “topically treated non-woven fabric laminates” to make this change, and such compelling reason is not present in Gilbert, or any other reference of record. Potts expressly teaches that the properties of the additives in the polymer composition (including the antistatic agent) are realized essentially spontaneously with formation of the fibers, and thus there is no reason for a subsequent external post treatment of the materials.

B. Claims 39 and 40 Are Patentable over Potts, Simpson, and Gilbert or Weipert in View of Evers

Evers fails to correct the deficiencies noted above in the asserted combination of Potts in view of Simpson and Gilbert or Weipert. Appellant therefore respectfully submits that claims 39 and 40 are patentable under 35 U.S.C. § 103(a) over Potts in view of Simpson and Gilbert or Weipert as applied to claim 23, and further in view of Evers.

C. Conclusion

Appellant respectfully submits that claims 23, 25, 28-31, 34-37, 39 and 40 are patentable over the art, the rejections should be reversed, and claims 23, 25, 28-31, 34-37, 39 and 40 should be allowed to issue in a patent.

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8. CLAIMS APPENDIX:

1 – 22. (Canceled)

23. (Previously presented) A topically treated nonwoven fabric laminate, the nonwoven fabric laminate comprising at least one spunbond layer and at least one meltblown layer, and the laminate further comprising a dried coating of a non-ionic fluoropolymer composition on said spunbond and meltblown layers, said composition applied in solution form to said laminate so as to permeate and coat all layers of said laminate; and wherein the nonwoven fabric laminate further comprises an antistatic agent applied over said coating of non-ionic fluoropolymer on one side of said laminate, and wherein the antistatic agent is an organic phosphate ester.

24. (Canceled)

25. (Previously Presented) An infection control product comprising a nonwoven fabric laminate of Claim 23.

26. (Canceled)

27. (Canceled)

28. (Previously Presented) The nonwoven fabric of Claim 23 wherein the hydrostatic head value of the treated nonwoven fabric is decreased by no more than 45 percent relative to the hydrostatic head value of an untreated nonwoven fabric.

29. (Previously Presented) The nonwoven fabric of Claim 28 wherein the hydrostatic head value of the treated nonwoven fabric is decreased by no more than 30 percent relative to the hydrostatic head value of an untreated nonwoven fabric.

30. (Previously Presented) The nonwoven fabric of Claim 29 wherein the hydrostatic head value of the treated nonwoven fabric is decreased by no more than 25

percent relative to they hydrostatic head value of an untreated nonwoven fabric.

31. (Previously Presented) The nonwoven fabric of Claim 30 wherein the hydrostatic head value of the treated nonwoven fabric is decreased by no more than 15 percent relative to the hydrostatic head value of an untreated nonwoven fabric.

32. (Canceled)

33. (Canceled)

34. (Previously Presented) The nonwoven fabric of Claim 23 wherein the nonwoven fabric has a hydrostatic head value of greater than 45 mBar as measured by Federal Test Standard 191A, Method 5514.

35. (Previously Presented) The nonwoven fabric of Claim 23 wherein the nonwoven fabric has an alcohol repellency of at least 70 percent as measured by INDA Standard Test No. IST 80.9-74 (R-82) and a hydrostatic head value of greater than 45 mBar as measured by Federal Test Standard 191A, Method 5514.

36. (Previously Presented) The nonwoven fabric of claim 23 wherein the nonwoven fabric has an alcohol repellency of at least 75 percent as measured by INDA Standard Text No. IST 80.9-74 (R-82) and a hydrostatic head value of greater than 45 mBar as measured by Federal Test Standard 191A, Method 5514.

37. (Previously Presented) The nonwoven fabric of Claim 23 wherein the nonwoven fabric is an infection control fabric that is or comprises a spunbond/meltblown/spunbond laminate or a spunbond/film/spunbond/meltblown/spunbond laminate.

38. (Canceled)

39. (Previously Presented) The nonwoven fabric of Claim 23 wherein the non-ionic fluoropolymer is selected from the group consisting of fluoroalkyl acrylate homopolymers, fluoroalkyl acrylate copolymers, fluorinated siloxanes, fluorinated silicones, fluorinated urethanes, and mixtures thereof.

40. (Previously Presented) The nonwoven fabric of Claim 23 wherein the non-ionic fluoropolymer is a non-ionic fluoroalkyl acrylate copolymer.

9. Evidence Appendix:

None.

10. Related Proceedings Appendix:

N/A

Respectfully submitted,

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